

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

4-06

☐ Other ☒ Amendment Number:

000003

Contract Number

EP-D-11-006

Contract Period 04/29/2011 To 03/31/2016

Base

Option Period Number 3

Title of Work Assignment/SF Site Name

Estimating Emission O & G

Contractor

EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW

Purpose

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 04/01/2014 To 03/31/2015

Comments

The purpose of this amendment is to cancel the budget ceiling on the work assignment.

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-60A.

Line	DCN (Max 6)	Budget FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period

04/29/2011 To 03/31/2016

Cost/Fee

LOE

This Action

Total

Work Plan / Cost Estimate Approvals

Contractor W/P Dated

Cost/Fee

LOE

Cumulative Approved

Cost/Fee

LOE

Work Assignment Manager Name Jennifer Snyder

(Signature)

(Date)

Branch/Mail Code:

Phone Number 919-541-3003

FAX Number:

Project Officer Name Margaret Dougherty

(Signature)

(Date)

Branch/Mail Code:

Phone Number 919-541-2344

FAX Number:

Other Agency Official Name

(Signature)

(Date)

Branch/Mail Code:

Phone Number:

FAX Number:

Contracting Official Name Marsha B. Johnson

(Signature)

(Date)

Branch/Mail Code:

Phone Number 919-541-0952

FAX Number:

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

4-06

☐ Other ☒ Amendment Number

000002

Contract Number

EP-D-11-006

Contract Period 04/29/2011 To 03/31/2016

Base

Option Period Number 3

Title of Work Assignment/SF Site Name

Estimating Emissions from O&G

Contractor

EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOA

Purpose



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 04/01/2014 to 03/31/2015

Comments

The revised work plan dated 03/03/15 has been reviewed and we concur with the labor hours (1,273), ODCs, and a total cost and fee amount of \$127,501 with a completion date of 3/31/15.



Superfund

Accounting and Appropriations Data



Non-Superfund

SFQ
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1300-09A.

S	DCN (Max 6)	Budget FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period 04/29/2011 To 03/31/2016 Cost/Fee \$100,751.00 LOE 1018

This Action \$26,750.00 255

Total \$127,501.00 1,273

Work Plan / Cost Estimate Approvals

Contractor W/P Dated 03/03/2015 Cost/Fee \$26,750.00 LOE 255

Cumulative Approved Cost/Fee \$127,501.00 LOE 1,273

Work Assignment Manager Name Jennifer Snyder

Branch/Mail Code:

Phone Number 919-541-3003

FAX Number:

(Signature)

(Date)

Project Officer Name Margaret Dougherty

Branch/Mail Code:

Phone Number 919-541-2344

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Marsha B. Johnson

Branch/Mail Code:

Phone Number 919-541-0952

FAX Number:

(Signature)

(Date)

Work Assignment Form (WebForms v1.0)

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

4-06

☐ Other ☒ Amendment Number:
000002Contract Number
EP-D-11-006Contract Period 04/29/2011 To 03/31/2015
Base Option Period Number 3Title of Work Assignment/SF Site Name
Estimating Emissions from O&GContractor
EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW

Purpose
☐ Work Assignment
☒ Work Assignment Amendment
☐ Work Plan Approval
☐ Work Assignment Close-Out
☐ Incremental Funding

Period of Performance

From 04/01/2014 To 03/31/2015

Comments
The purpose of this work change is to add a task per the attachment. The Contractor shall submit a revised work plan and cost estimate. No previous performed work shall be duplicated.☐ Superfund

Accounting and Appropriations Data

☒ Non-SuperfundSFD
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-66A.

#	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollar)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period 04/29/2011 To 03/31/2015
Cost/Fee LCE

This Action

Total

Work Plan / Cost Estimate Approvals

Contractor WP Direct Cost/Fee LCE

Cumulative Approved Cost/Fee LCE

Work Assignment Manager Name Jennifer Snyder

Branch/Mail Code

Phone Number 919-541-3003

FAX Number

(Signature)

(Date)

Project Officer Name Margaret Dougherty

Branch/Mail Code

Phone Number 919-541-2344

FAX Number

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code

Phone Number

FAX Number

(Signature)

(Date)

Contracting Official Name Marsha B. Johnson

Branch/Mail Code

Phone Number 919-541-0952

FAX Number

(Signature)

(Date)

ATTACHMENT

Work Assignment Title: Estimating Emissions from O&G
Contract #: EP-D-11-006
Contractor: ERG
WA#: 4-06
WA Change #: 2
WAM: Jennifer Snyder

Add the following under Task 7:

A redesign of the tool in preparation for the 2014 NEI shall include dividing the tool into 2 modules - one for exploration (drilling, fracturing, well completions, mud degassing) and one for production. This is necessary due to size limitations of Microsoft Access, and will allow for potential future revisions to the tool, including calculating unconventional wells/production separately from conventional wells/production. All gas composition data shall also be consolidated, removing it from all the individual tables and creating a single, master table for composition data. A gas composition table shall be included in each of the exploration and production modules.

Based on comments, the contractor shall design and format user-friendly data input forms. These forms shall be based on the models ERG shared with the National Oil and Gas Committee in July, 2014.

This additional task shall be implemented by March 31, 2015 in order to be reflected in the training at the Emission Inventory (EI) Conference. The Contractor shall conduct training at the EI Conference in April, 2015 (the next option period). The Contractor shall prepare the training materials under this WA.

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

4-06

☐ Other ☒ Amendment Number:
000001Contract Number
EP-D-11-006

Contract Period 04/29/2011 To 03/31/2015

Title of Work Assignment/SF Site Name

Base Option Period Number 3

Estimating Emissions from O&G

Contractor

EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW

Purpose

☐

Work Assignment

☐

Work Assignment Close-Out

☒

Work Assignment Amendment

☐

Incremental Funding

☐

Work Plan Approval

Period of Performance

From 04/01/2014 To 03/31/2015

Comments

The purpose of this work change is to change the WAM to Jennifer Snyder and to increase the budget ceiling from \$65,000 to \$90,000. No previous performed work shall be duplicated.

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

Note: To report additional accounting and appropriations data use EPA Form 1900-68A.

SFO
(Max 2)☐

	DCN (Max 6)	Budget FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period

Cost/Fee

LOE

04/29/2011 To 03/31/2015

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated

Cost/Fee

LOE

Cumulative Approved

Cost/Fee

LOE

Work Assignment Manager Name Jennifer Snyder

Branch/Mail Code:

Phone Number 919-541-3003

FAX Number:

(Signature)

(Date)

Project Officer Name Margaret Dougherty

Branch/Mail Code:

Phone Number 919-541-2344

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Rodney Daryl Jones

Branch/Mail Code:

Phone Number 919-541-3112

FAX Number:

(Signature)

(Date)

DEC 19 2011

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

4-06

☐

Other

☐

Amendment Number

Contract Number

EP-D-11-006

Contract Period 04/29/2011 To 03/31/2015

Base

Option Period Number 3

Title of Work Assignment/SF Site Name

Estimating Emissions from O&G

Contractor

EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW

Purpose

☒

Work Assignment

☐

Work Assignment Close-Out

☐

Work Assignment Amendment

☐

Incremental Funding

☒

Work Plan Approval

Period of Performance

From 04/01/2014 To 03/31/2015

Comments

The work plan dated 04/16/14 has been reviewed and we concur with the labor mix, technical hours (1,018), CDCs, total estimated cost \$100,751 and completion date 03/31/15 as specified. Due to budgetary constraints the contractor shall not exceed costs of \$65,000 until authorized by a change in the WA.

☐

Superfund

Accounting and Appropriations Data

☒

Non-Superfund

SFO
(Max 2)☐

Note: To report additional accounting and appropriations data use EPA Form 1900-68A.

#	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period	Cost/Fee	LOE
04/29/2011 To 03/31/2015	\$0.00	0
This Action	\$100,751.00	1,018
Total	\$100,751.00	1,018

Work Plan / Cost Estimate Approvals

Contractor WP Dated	Cost/Fee	LOE
04/16/2014	\$100,751.00	1,018
Cumulative Approved	Cost/Fee	LOE
	\$100,751.00	1,018

Work Assignment Manager Name Roy Huntley

Branch/Mail Code:

Phone Number 919-541-1060

FAX Number 919-541-0684

(Signature)

(Date)

Project Officer Name Margaret Dougherty

Branch/Mail Code:

Phone Number 919-541-2344

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Rodney Daryl Jones

Branch/Mail Code:

Phone Number 919-541-3112

FAX Number:

(Signature)

(Date)

MAY 28 2014

EPAUnited States Environmental Protection Agency
Washington, DC 20460**Work Assignment**

Work Assignment Number

4-06

☐ Other ☐ Amendment NumberContract Number
EP-D-11-006

Contract Period 04/29/2011 To 03/31/2015

Title of Work Assignment/SF Site Name

Estimating Emissions from O&G

Contractor

EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW

Section II K

Purpose



Work Assignment



Work Assignment Close-Out



Work Assignment Amendment



Incremental Funding



Work Plan Approval

Period of Performance

From 04/01/2014 To 03/31/2015

Comments

This is the initiation of a work assignment for the Option III period. Hours have been authorized for the work plan and also for work to begin (300 hours). This work does not duplicate any work previously performed or is currently being performed.



Superfund

Accounting and Appropriations Data



Non-Superfund

SFO
(Max 2)

Note: To report additional accounting and appropriations data use EPA Form 1900-65A.

S	DCN (Max 6)	Budget FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

Contract Period

Cost/Fee

LOE

04/29/2011 To 03/31/2015

This Action

Total

Work Plan / Cost Estimate Approvals

Contractor VAP Dated

Cost/Fee

LOE

Cumulative Approved

Cost/Fee

LOE

Work Assignment Manager Name Roy Huntley

Branch/Mail Code:

Phone Number 919-541-1060

FAX Number 919-541-0684

(Signature)

(Date)

Project Officer Name Margaret Dougherty

Branch/Mail Code:

Phone Number 919-541-2344

FAX Number:

(Signature)

(Date)

Other Agency Official Name

Branch/Mail Code:

Phone Number:

FAX Number:

(Signature)

(Date)

Contracting Official Name Rodney Daryl Jones

Branch/Mail Code:

Phone Number 919-541-3112

FAX Number:

(Signature)

(Date)

Statement of Work

- I. Title: Estimating Emissions from the Oil and Gas Production Sector, Continued**
Contractor Name: Eastern Research Group
Contract #: EP-D-11-006
WAM: Roy Huntley, 919-541-1060
Alt. WAM: Jennifer Snyder 919-541-3003

II. Background:

The Emission Inventory and Analysis Group (EIAG) produce the National Emission Inventory (NEI) for criteria and hazardous air pollutants (HAPs) for various years. These data are needed by States to evaluate emissions trends in each State and to compare emission trends between States. The NEI is also used as a basis for various EPA modeling and regulatory analyses. Finally, the NEI contains the data used to produce the National Air Pollutant Emission Trends report.

The purpose of this work assignment is to continue the development of a calculational tool that estimates nonpoint emissions for the oil and gas production sector for the calendar year 2011, and will be flexible enough to update with new activity and inputs for future calendar year inventories. (The term "nonpoint" is used to include what has been traditionally called "area" sources in the criteria inventories. For HAPs, "area sources" has a statutory meaning related to how a source is regulated. Therefore, we use the term "nonpoint" to include stationary sources that do not have a known latitude/longitude location).

III. Description and Tasks:

Task 1: Work Plan

The Contractor shall develop a work plan and cost estimate. The cost estimate shall be at least broken out to the task level. The Contractor shall hold conference calls with the WAM on at least a biweekly basis after approval of the work plan to plan and review progress of this WA. This is a follow-on work assignment. The previous WA is 3-03 contract EP-D-11-006. This WA does not duplicate any work previously performed or currently being performed.

Task 2: Complete 2011 Version 2 of the Oil and Gas Production Emission Estimation Tool

The Contractor shall continue working to complete the 2011 version 2 of the tool. This is a continuation of the work done by a previous WA (WA 3-03, contract EP-D-11-006). The Contractor shall continue incorporating comments on the tool as advised through Technical Direction (TD) by the WAM. The Contractor shall refine the tool as necessary and incorporate changes as advised through TD by the WAM. After addressing comments, the Contractor shall deliver to the WAM a final version 2 of the tool to be used for the 2011 NEI by April 30, 2014.

Task 3: Review New Data

The Contractor shall review new data involving emission factors and practices related to oil and gas production activities for the purpose of improving the tool's emission estimates. This new data shall include but not be limited to data submitted to EPA by industry under the Subpart W Greenhouse Gas Reporting Program (GHGRP) Rule, data released in the latest Environmental Defense Fund (September 2013) study, data from Regional Planning Organizations (like WRAP and MARAMA), states, and other federal agencies (like the Bureau of Land Management (BLM)). The Contractor shall coordinate with the WAM to obtain data from any of these sources. This data shall be incorporated as appropriate into the oil and gas production emission estimation tool. All changes to the tool shall be approved by the WAM before being implemented.

Task 4: Response to Comments

The Contractor shall review and provide responses, if appropriate, for all comments that resulted from the public review of the oil and gas tool, which was released in September 2013. The comment period ended January 31, 2014, and comments were received from the American Petroleum Institute (API). The Contractor shall provide a final memo to the WAM responding to the comments. Where appropriate, the contractor responses shall include recommendations for revisions. All changes to the tool or to the documentation as a result of this review shall be approved by the WAM.

Task 5: Changes to the Oil and Gas Tool (post v2)

The Contractor shall redesign the tool as appropriate and as necessary, taking into account the changes needed as a result of the public comments and National Oil and Gas Committee comments. All redesigns shall be approved in advance by the WAM through TD. For planning purposes, the Contractor shall assume a redesign of the liquids unloading methodology to match the OAP methodology. Also for planning purposes, the Contractor shall assume a redesign of the dehydrator methodology, taking into account comments that these emissions are non-linear with production. This task shall include revising the tool by providing a more user-friendly interface for states' submissions. The purpose of this is to make changes to the basin emission factors easier to upload, and to make it easier to see exactly what basin factors are available for their areas.

Task 6: Filling Data Gaps

The Contractor shall design and implement a plan to fill in data gaps for the states that have not to date given us detailed state-specific information. The contractor shall submit the plan to the WAM for approval through TD before implementation. For example, Ohio has stated that they do not have dehydrators. The Contractor shall design and implement a strategy to determine how dehydrators are actually used in Ohio. The strategy might include contacting several facilities in Ohio or calling the state energy office for information. In addition, the Contractor shall work with the states that do not rely on the EPA tool for emission estimates to incorporate their state/basin specific inputs into the EPA tool. For example, Wyoming, Colorado, and Pennsylvania have their own estimates for oil and gas production, and submitted these to the

2011 NEI. The Contractor shall work with these states to revise the tool inputs so that the tool's emission estimates match the states estimates. For planning purposes, the Contractor shall assume 5 states have needs for filling data gaps.

Task 7: 2014 NEI Development

The Contractor shall do the necessary data pulls and data manipulation to the HPDI dataset to prepare the data for import into the EPA tool in preparation for a preliminary 2014 emission inventory. For cost estimation purposes, the contractor shall assume the 2014 data will be similar in format to the 2011 data.

IV. QA Requirements:

The Contractor shall provide a written QA project plan as part of the WA. The Contractor shall also evaluate the nonpoint estimates in terms of reasonableness. The Contractor shall propose other reasonableness checks for WA approval. Reasonableness checks may include review of outliers, comparing 2011 estimates to previous year's estimates or to other comparable estimates. The Contractor shall deliver QA reports to the WAM.

V. Deliverables:

The Contractor shall adhere to the following schedule:

Deliverable	Due Date
Work Plan	20 calendar days after the effective date of the work assignment
Monthly progress reports	Ongoing
Deliver final v2 of the Tool	April 30, 2014
Deliver final documentation	April 30, 2014
Deliver memo detailing new recommended emission factors (task 3)	March 31, 2015
Deliver final response to API comments	May 31, 2014
Deliver final post 2011 V2 version of the tool	March 31, 2015
Deliver draft plan to improve state data gaps (task 6)	June 31, 2014
Deliver the 2014 preliminary emissions	March 31 2015

VI. Reporting Requirements:

The Contractor shall provide monthly progress reports in accordance with the terms of the contract. The Contractor shall submit work products in electronic as well as hard copy form. In addition, the Contractor shall deliver to the WAM each draft and final report in electronic format that is readable by Windows-based word processing (Microsoft Word 2007), graphics (Microsoft PowerPoint 2007), spreadsheet (Excel 2007), and database (Access 2007) programs. The Contractor shall also provide electronic copies of reports in PDF format.